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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,364	07/29/2003	Shigeru Nakamura	500.38285VX1	5993
20457	7590	01/24/2005	EXAMINER	
ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-9889			PSITOS, ARISTOTELIS M	
			ART UNIT	PAPER NUMBER
			2653	

DATE MAILED: 01/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/628,364

Applicant(s)

NAKAMURA ET AL.

Examiner

Aristotelis M Psitos

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11/29/04 & 9/24/04.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 13-36 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 13-36 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

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#### **DETAILED ACTION**

Applicants' responses 9/24/04 and 11/29/04 have been considered with the following results.

Applicants' communication of 9/24/04 was delayed in processing and hence was processed simultaneously with the amendment/papers of 11/29/04. The examiner regrets any inconvenience to applicants and their representatives, but this is beyond the examiner's control. It is regretted that the 892 form failed to include the patent # 6298028, nevertheless since the patent # was presented in the body of the OA, and the citation of such in the parent file, applicants were not unduly denied ample opportunity in responding to the OA.

In response to the request in the paper of 9/24/04, since the procedure outlined in MPEP§710.06 has been established to afford applicant an opportunity to respond to all outstanding issues within the time period set, as well as this document being properly identified in the parent file, and applicants have responded to all outstanding issues in the OA of 8/27/04 the request is moot, and hence denied.

The examiner fails to understand applicants' protest with respect to the patent #6298028 because such was identified in the parent file, sn 09/517,594 – item c on the 892 form attached to paper #15, and that the document in question was properly identified in the body of this previous OA.

The amendment(s) of 11/29/04 have been reviewed and the following action is taken.

#### ***Information Disclosure Statement***

Applicants' comments with the handling of the IDS filed with the application are noted.

Regrettably, contrary to applicants' position, the foreign documents in question were not filed in the parent file. Hence the position is maintained.

#### ***Claim Objections***

Applicant is advised that should claims 13-36 be found allowable, claims 20-26 and 35 will be objected to under 37 CFR 1.75 as being a substantial duplicate of claims 27-33 and 36. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

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The examiner concludes that claims 20-26 and 36 are duplicate of the subject matter claimed in claims 27-33,36 for the reasons stated below.

With respect to claims 20-26 and 35, the claim is written to describe a recording and reproducing apparatus; however, no such ability can be ascribed to the elements positively recited. At the very least, input and output elements are required to complete the desired ability of recording/reproducing. When such language is introduced, these claims are duplicate of claims 27-33 and 36. That is claims 20-26 and 35 are incomplete.

Furthermore the claims are objected to under 37 CFR 1.75 (d) (1) for the following incongruities:

1) See the below problem with the newly introduced claim language in independent claims 13,20 and 27.

2) With respect to claim 17, the examiner finds no support for such language ("a .... point .... are....").

In addition, claims 34-36 are written as a functional desired result --- wherein --- phrase; however, such results fail to follow from the structure positively recited in the claims, i.e., there is no commonly shared amplifier recited, that is the claim is incomplete.

Appropriate correction(s) are required.

Claims 20-26 and 35 are interpreted to include appropriate input and output element(s)/unit(s)/mean(s) in order to complete the claims in the below analysis.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 13-36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

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The examiner cannot readily find support for the claims now present with the specification as originally filed. Applicants' cooperation in indicating where such support is found in the original specification is respectfully requested.

Independent claims 13,20 and 27 have been amended to now recite:

a plurality of optical detectors disposed on the substrate, to which reflected light divided by the dividing means are irradiated, for detecting and producing focus error signal, tracking error signal and information playback signal, where the optical detector for detecting and producing focus error signal is a common optical detector used in common irrespective of the wavelengths, and the optical detector for detecting and producing the tracking error signal or the information playback signal is an independent optical detector used independently at each of the wavelengths.

The examiner interprets these newly introduced limitations as an attempt to define the disclosure with respect to figure 3A. The examiner cannot map the new languages with the disclosure.

As described, on pages 14-17 of the disclosure, a plurality of detectors (detecting elements 7a,7b, 38a,38b and others not numbered) are relied upon to produce a focusing error signal (upper half of figure 3A), while another set of detectors (lower half of figure 3A) are used for tracking and information. The above claimed language fails to agree with such, and hence is considered drawn to "new matter" and/insufficiently disclosed. Alternatively, the claims can be construed as misdescriptive in that it fails to particularly point out and distinctly claim the disclosed invention.

With respect to claim 17, there is NO singular point disclosed to yield such a desired claimed result. Although the examiner had originally considered such as a minor subject-verb issue, in response to applicants' arguments thereto, the examiner concludes that a plurality of points not a singular point is disclosed, and hence the claim as written is not supported.

The remaining dependent claims fail to clarify the above and fall accordingly.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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2) Claims 13,17-20,24-27 and 31-33 are rejected under 35 U.S.C. 103 (a) as being obvious over Uchizaki et al further considered with Takeda et al.

Claim 13 recites:

Uchizaki et al

An optical head, comprising:

see abstract, title

a plurality of semiconductor lasers integral with a substrate,

see abstract, figs. 2a,b

to irradiate light of mutually differing wavelengths

5,8, and description

at a predetermined Light emitting point separation:

thereof

a collimating lens to make the light irradiated from the

element 14 in the ref.

semiconductor Lasers substantially parallel;

a focuser to focus the light from the collimating lens

elements 17 & 18/19

onto an optical recording medium;

a dividing means for dividing reflected light from the optical

holographic element 33

recording medium;

and

a plurality of optical detectors disposed on the substrate, to which

see description of figs.

reflected light divided by the dividing means are irradiated, for

4-8 in the disclosure.

detecting and producing focus error signal, tracking error signal

and information playback signal, where the optical detector for

detecting and producing focus error signal is a common optical

detector used in common irrespective of the wavelengths, and

the optical detector for detecting and producing the tracking error

signal or the information playback signal is an independent optical

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detector used independently at each of the wavelengths.

In the above analysis the examiner interprets the ultimate paragraph in the independent claim as describing a plurality of detectors, one such detector for establishing focusing error signals (irrespective of wavelength) and an "independent" detector for establishing tracking or information signals.

As described in the above patent with respect to figures 4-8 a variety of detector arrangements are depicted, wherein a singular detector arrangement described in figures 4-6 establishes all developed signals (focus, tracking and information) whereas in figures 7-8 a plurality of detectors, one independent from the other yields the developed signals.

The document establishes the ability of either a singular or plural detector arrangement for the generation of the appropriate focusing, tracking and information signals.

Takeda depicts/teaches in this environment a detector arrangement wherein an "independent" detector is relied upon for yielding the information signals.

With respect to claim 17, the light-gathering point of the wavelengths is substantially coincided with one another.

With respect to claim 18, the light emerging direction of the semiconductor lasers is substantially perpendicular to a normal line-detecting surface of the optical detectors.

With respect to claim 19, the laser source is referred to as a chip.

Similar analysis is made with respect to independent claims 20 and 27 and dependent claims 24-26 and 31-33. With respect to claim 27, since the overall description of the Uchizaki et al reference is that of a recording and reproducing environment, the user input/output units (ports) as well as the recording/reproducing apparatus is met by the above reference. With respect to the newly introduced optical medium unit for holding the records, such a element is considered inherently present, else the disc(s) would not be held in any position with respect to the remainder of the optical head apparatus (i.e., the disc(s) would flop around.)

3) Claims 14,15,21,22,28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claims 13,20 and 27 as stated in paragraph 2 above, and further in view of JP 09-128794.

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Claims 14, 21 and 28 all recite a diffraction grating as the dividing means.

Although the Uchizaki et al document refers to his diving element as a diffraction hologram, the examiner further considers such an element as recited herein as well known and taught by the JP 09-128794 document.

The JP document discloses the use of a diffraction grating as a dividing element. Furthermore, see the description commencing at paragraph 39 of the machine assisted translation which focuses upon the relationship between the lasers emitting points (reference to as S and S' in the machine assisted translation) as well as their separation (x direction) and the association of pitch and wavelength thereto.

It would have been obvious to modify the base system as stated above in paragraph 2 and modify such with the above teaching from the JP document. Motivation is to use existing relationships so as to optimize the optical system/ hence reduce overall footprint thereof. Selection between one type of diffraction element (hologram) vs. a diffraction grating is one of semantics, i.e., the examiner equates the two.

4) Claims 16,23 and 30 rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claims 14,21 and 28 as stated above in paragraph 3, and further in view of Komma et al.

The ability of having the dividing means, separated into 4 quadrants is taught by the Komma et al system.

It would have been obvious to modify the base system as relied upon above in paragraph 3, with the additional teaching from Komma et al, motivation is to provide for signal separation and hence proper detection upon the appropriate detecting elements.

***Claim Rejections - 35 USC § 103***

5) Claims 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to the independent claims 13,20 and 27 in paragraph 2 above, and further in view of Takeda et al.

As interpreted by the examiner, applicants' attention is drawn to figure 5 of Takeda et al, which depicts common amplifier for the te signals.

It would have been obvious to modify the base system as relied upon above in paragraph 2 with this additional teaching from Takeda et al, motivation is to use common circuit elements for signal



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processing and reduce the overall footprint of the designed/manufactured circuit. Savings of space, materials cost etc are prime motivators for such capabilities.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

JP 200-076689 (only MAT is provided) is cited as also illustrative of an integrated optical head having appropriate detector arrangements for the divided returning light in this environment.

Freeman et al – which could be relied upon along with the integrated optical package arrangement of either Uchizaki et al or Arikawa et al (6778486) in order to meet the above independent claims.

Hang et al, also interchangeable with the primary reference.

Applicant's amendments/arguments have necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aristotelis M Psitos whose telephone number is (703) 308-1598. The examiner can normally be reached on M-Thursday 8 - 4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on (703) 305-6137. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aristotelis M Psitos  
Primary Examiner  
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A handwritten signature in black ink, appearing to be 'AMP', written in a stylized, cursive-like font.

AMP